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## BRIEFER ARTICLES

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### PURPLE BUD SPORT ON PALE FLOWERED LILAC (SYRINGA PERSICA)

(WITH ONE FIGURE)

In the present state of our knowledge of bud sports, every well authenticated case is distinctly worthy of record. Fig. 1 represents a panicle of a bud sport of the Persian lilac, and beside it a panicle of the form on which it appeared. The bush is one of the very pale-flowered varieties, by no means white, which is best described as lilac-tinged. The bud sport was deep purple, of exactly the same color as the darkest flowered variety of the Persian lilac commonly grown. The sport was free from all suspicion of being a graft, occurring, as it did, at the summit of a bush 10 ft. high, which had never been grafted, with normal panicles of the same age below it. The bush has flowered for 10 years or more, without ever having produced any other than tinged flowers. Dr. LOUIS P. HALL, of Ann Arbor, on whose grounds it occurred, and who called it to our attention, is a keen observer, and would surely have noticed unusual panicles if there had been any before this year. Particular pains were taken to ascertain that the sport was truly such, and not a graft, for grafted lilacs are, of course, not uncommon. The evidence that the dark-colored inflorescence was the result of a bud sport was altogether clear.

The flowers of the variation differed from those of the form on which it occurred not only in color but also in size. Data for several size characters, based in each case upon 50 measurements, are as follows:

	Normal form	Purple bud sport
Spread of corolla		
Range.....	10.4-13.3 mm.	15.3-18.4 mm.
Mean.....	12.2	16.6
Length of tube		
Range.....	9.9-11.9	10.2-11.8
Mean.....	11.3	11.1
Width of corolla lobes		
Range.....	2.7-4.1	4.0-5.5
Mean.....	3.6	4.75

It is evident that the chief size differences are in the spread of the corolla and the width of its lobes. The ranges of variation for these characters hardly overlap in the two forms.

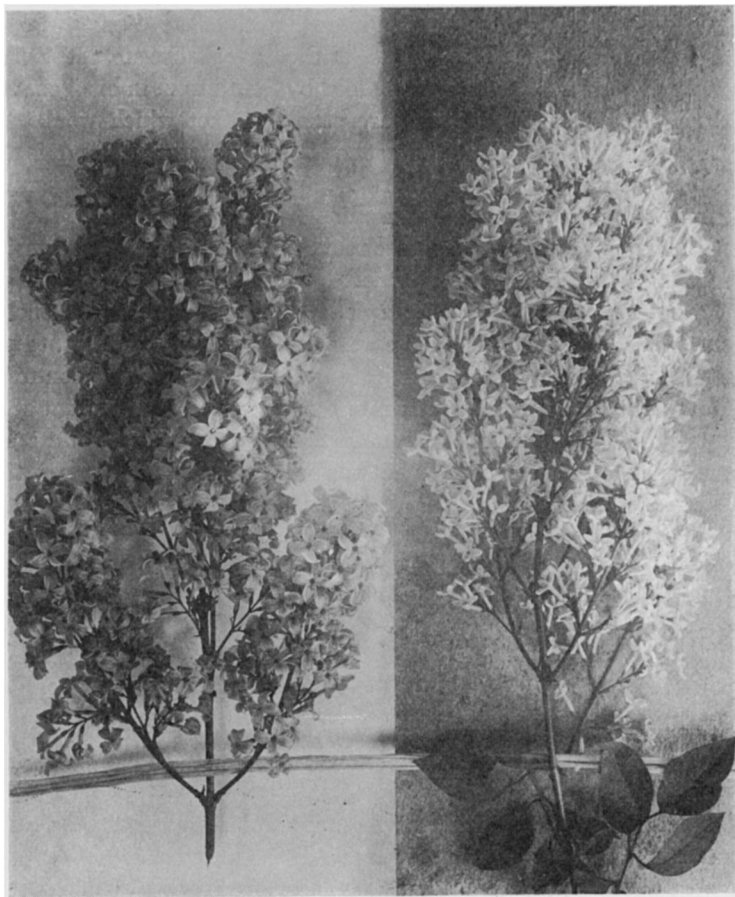


FIG. 1.—*Syringa persica*: at left, large-flowered purple bud sport; at right, normal inflorescence of small-flowered, lilac-tinged variety.

In both measurements and color, the bud sport exactly duplicated a dark purple variety of *Syringa persica* which is commonly cultivated. The latter differs from the lilac-tinged variety in that the corolla lobes appear to be 3-nerved rather than 1-nerved. In this character, also, the bud sport was different from the bush that produced it, and exactly

like the purple variety. Microscopic examination showed that what appeared to be lateral nerves were not due to bundles, but were merely folds. Nevertheless they afford a striking character difference between the two forms.

The bushes under consideration are identified as *Syringa persica* with some doubt. The upper surface of the leaves lacks stomata, which should be present in *S. persica*, as defined by SCHNEIDER in his *Handbuch der Laubholzkunde*. The flowers are sterile, a fact which would presumably point to a hybrid ancestry, and the terminal bud is not suppressed, but generally gives rise to a panicle. The flowers are produced, then, from lateral and terminal buds on the wood of the preceding year. The bushes were purchased as *S. persica*, which seems, on the whole, the most applicable name.

The color of the wild lilacs is purple. A light-colored variety, such as the one which produced this bud sport, might be judged, a priori, to be a Mendelian recessive. If it should be found to be so, the reversion to the original purple would be distinctly interesting, from the standpoint of the now almost discarded presence and absence hypothesis. If not a reversion, it might be either a case of what has been called somatic segregation, or a periclinal chimaera. These hypotheses will be tested, if possible; but since the evidence, if obtainable at all, must be long delayed, it is thought worth while to report the mere fact that such a bud sport has been observed.—FRIEDA COBB AND H. H. BARTLETT, *University of Michigan, Ann Arbor, Mich.*

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## METHOD FOR STAINING ANTHEROZOID OF FERN

(WITH ONE FIGURE)

Some time ago the writer had a favorable opportunity to study spermatogenesis in some of the common ferns, and it was found desirable to perfect a staining technique by means of which it was possible to stain the cilia and at the same time to differentiate clearly the different parts of the body of the antherozoid. Of the various methods employed the following proved most satisfactory: (1) kill antherozoids in a drop of water on a slide by inverting the slide over a vial containing a 1 per cent osmic acid solution (the drop of water should be small and when placed on the slide spread out so as to form a thin film); (2) dry slide in air; (3) stain in safranin 10 minutes to 1 hour; (4) wash in water; (5) wash in 95 per cent alcohol until only the nucleus remains stained; if necessary,